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Plants Collected in Alaska and Nanaimo, B. C., July and August, 1891.*

By Grace E. Cooley, Wellesley College.

I desire to thank Drs. Vasey and Trelease, Prof. Underwood, Mr. Bebb, and my friend and colleague, Miss Cummings, for kindness in determining the plants of those groups of which they have made special study; also Dr. Robinson, for his courtesy in placing the valuable material of the Gray Herbarium at my disposal.

RANUNCULACEÆ.

Aconitum delphinifolium, DC. Juneau; Sheep Creek, near Juneau.
Actæa alba, Bigel. Chilcat.
Actæa spicata, L. var *rubra*, Ait. Juneau.
Anemone narcissiflora, L. Above Silver Bow Basin, near Juneau.
Anemone parviflora, Michx. Above Silver Bow Basin, near Juneau.
Anemone Richardsoni, Hook. Above Silver Bow Basin.
Aquilegia formosa, Fisch. Juneau; Sheep Creek.
Coptis asplenifolia, Salisb. Salmon Creek, near Juneau; Sheep Creek.
Ranunculus Cooleyæ, Vasey and Rose, n. sp. Near the summit of a ridge covered with snow, near Juneau, Aug. 6. Description to be published later.
Ranunculus Cymbalaria, Pursh. Chilcat.
Ranunculus Eschscholtzii, Schlecht. Near Juneau.
Ranunculus occidentalis, Nutt. Near Juneau.
Ranunculus occidentalis, Nutt. var. *Lyalli*, Gray. Wrangel.
Ranunculus pygmæus, Wahl. Mountain above Silver Bow Basin, near Juneau.

BERBERIDACEÆ.

Achlys triphylla, DC. Nanaimo, B. C.

NYMPHÆACEÆ.

Nuphar luteum, Smith. Douglas Island.

* Supplementary to paper published in the June number.

CRUCIFERÆ.

Arabis lyrata, L. Juneau.
Arabis petræa, Law. var. *ambigua*, DC. Silver Bow Basin, near Juneau.
Cardamine hirsuta, L. Juneau.
Cochlearia officinalis, L. Loring.

VIOLACEÆ.

Viola Langsdorffii, Fisch. Juneau.
Viola palustris, L. Silver Bow Basin, near Juneau.

CARYOPHYLLACEÆ.

Arenaria arctica, Stev. New Metlakatla.
Arenaria oblongifolia, T. & G. Salmon Creek; Chilcat.
Arenaria pungens, Nutt. Juneau.
Arenaria tenella, Nutt. Nanaimo, B. C.
Cerastium alpinum, L. Sheep Creek, near Juneau.
Cerastium alpinum, L. Form clothed with long, silky pubescence. Mountain near Juneau.
Cerastium vulgatum, L. Mountain near Juneau.
Lepigonum medium, Fries. Loring.
Sagina Linnæi, Presl. Auriferous sand, Silver Bow Basin, Juneau.
Silene acaulis, Linn. Mountains about Juneau.
Stellaria borealis, Bigelow, var. *corallina*, Fenzl. Wrangel.
Stellaria crispa, Cham. & Schlecht. Juneau.
Stellaria humifusa, Rottb. Chilcat.
Stellaria longipes, Goldie. Above Silver Bow Basin, near Juneau.
Stellaria longifolia, Muhl. New Metlakatla.

PORTULACEÆ.

Claytonia parvifolia, Moçino. Juneau.
Claytonia Sibirica, L. Nanaimo, B. C., Juneau.

HYPERICACEÆ.

Hypericum anagalloides, Cham. & Schlecht. Nanaimo, B. C.

GERANIACEÆ.

Geranium erianthum, DC. Juneau; Sheep Creek, near Juneau.
Geranium rotundifolium, L. Nanaimo, B. C.
Impatiens fulva, Nutt. Juneau.

SAPINDACEÆ.

Acer macrophyllum, Pursh. Nanaimo, B. C.

LEGUMINOSÆ.

Astragalus alpinus, L. Mountain above Silver Bow Basin, near Juneau.
Lathyrus maritimus, Bigel. Chilcat.
Oxytropis campestris, DC. Mountain above Silver Bow Basin, near Juneau.
Oxytropis Lamberti, Pursh. Pyramid Harbor.
Trifolium involucratum, Willd. Nanaimo, B. C.

ROSACEÆ.

Dryos octopetala, L. Terminal Moraine of Davidson Glacier.
Eriogynia pectinata, Hook. Mountain above Silver Bow Basin, near Juneau.
Fragaria vesca, Linn. Nanaimo, B. C.
Geum calthifolium, Smith. Mountain near Juneau; Sheep Creek, near Juneau.
Geum macrophyllum, Willd. Wrangel.
Potentilla palustris, Scop. Sphagnum swamp, near Juneau.
Poterium Sitchense, Watson. Juneau.
Rosa gymnocarpa, Nutt. Nanaimo, B. C.
Rubus Nutkanus, Moç. Loring.
Rubus pedatus, Smith. Juneau.
Rubus spectabilis, Pursh. Loring.
Rubus stellatus, Smith. Wrangel.
Rubus trivialis, Michx. Nanaimo, B. C.
Rubus ursinus, Cham. & Schlecht. Nanaimo, B. C.
Sibbaldia procumbens, L. Silver Bow Basin, near Juneau.
Spiræa Aruncus, Linn. Mountains near Juneau.
Spiræa betulæfolia, Pall. Juneau; Sheep Creek.
Spiræa discolor, Pursh. Nanaimo, B. C.

SAXIFRAGACEÆ.

Boykinia major, Gray. Juneau.
Leptarrhena pyrolifolia, R. Br. Mountain near Juneau.
Mitella pentandra, Hook. Mountain above Silver Bow Basin, near Juneau.
Parnassia fimbriata, Kœnig. Mountain above Silver Bow Basin, near Juneau.
Ribes bracteosum, Dougl. Near Juneau.
Ribes Hudsonianum, Rich. Nanaimo, B. C.
Ribes lacustre, Poir. Nanaimo, B. C.; Moraine of Davidson Glacier.
Saxifraga bronchialis, L. Sheep Creek, near Juneau.
Saxifraga leucanthemifolia, Michx. Juneau.
Saxifraga Lyallii, Engl. Mountain-side, Juneau.
Saxifraga oppositifolia, L. Juneau.
Saxifraga punctata, L. Above Silver Bow Basin, near Juneau.
Saxifraga tricuspidata, Retz. Sheep Creek, near Juneau.
Tellima grandiflora, R. Br. Juneau.
Tiarella trifoliata, L. Nanaimo, B. C.; Juneau.

CRASSULACEÆ.

Sedum Rhodiola, DC. Juneau.

DROSERACEÆ.

Drosera rotundifolia, L. Douglas Island.

ONAGRACEÆ.

Boisduvalia Torreyi, Wats. Nanaimo, B. C.
Circæa alpina, L. Nanaimo, B. C.
Epilobium anagallidifolium, Lam. Near Juneau.
Epilobium adenocaulon, Hausskn. (?) Near Juneau,
Epilobium boreale, Hausskn. (?) Near Juneau.

Epilobium Franciscanum, Barbey. Apparently from unusually far north. Near Juneau.
Epilobium Hornemanni, Reichenb. Near Juneau.
Epilobium latifolium, L. With white form as well. Mountain near Juneau.
Epilobium luteum, Pursh. Juneau,
Epilobium leptocarpum, Hausskn. var. (?) The Alaskan form noted in my revision. Near Juneau. [Wm. Trelease].

UMBELLIFERÆ.

Heracleum lanatum, Michx. Juneau.
Ligusticum Scoticum, L. Shore Gastineaux Channel.
Osmorrhiza nuda, Torr. Juneau.
Selinum Benthami, Wats. Chilcat.
Selinum Hookeri, Wats. Chilcat.

ARALIACEÆ.

Fatsia horrida, Benth. & Hook. Everywhere in the forests.

CORNACEÆ.

Cornus Canadensis, L. Wrangel.

CAPRIFOLIACEÆ.

Sambucus racemosa, L. Wrangel.
Symphoricarpos mollis, Nutt. Nanaimo, B. C.
Symphoricarpos occidentalis, Hook. Nanaimo, B. C.
Viburnum pauciflorum, Pylaie. Sheep Creek, near Juneaa,

RUBIACEÆ.

Galium Aparine, L. Wrangel ; Juneau.

VALERIANACEÆ.

Valeriana Sitchensis, Bong. Silver Bow Basin, near Juneau.
Valerianella anomala, Gray. Nanaimo, B. C.

COMPOSITÆ.

Adenocaulon bicolor, Hook. Nanaimo, B. C.
Anaphalis margaritacea, Benth. & Hook. Chilcat.
Antennaria alpina, Gærtn. Mountain near Juneau.
Arnica alpina, Olin. (?) Mountain near Juneau.
Arnica latifolia, Bong. Above Silver Bow Basin, near Juneau. Near the snow, above tree-line (not "in woods," as Gray has it).
Arnica Unalaschensis, Less. Mountain near Juneau.
Artemisia Norvegica, Fries. var. *Pacifica*, Gray. Above Silver Bow Basin, near Juneau. Two distinct forms: one glabrous, heads small; one white-hairy, heads larger.
Aster foliaceus, Lindl. Juneau.
Aster modestus, Lindl Sheep Creek, near Juneau.
Chrysanthemum arcticum, L. Chilcat.
Cotula coronopifolia, L. Nanaimo, B. C.
Erigeron salsuginosus, Gray var. *angustifolius*, Gray. Douglas Island.
Erigeron uniflorus, L. Mountain above Silver Bow Basin, near Juneau.

Eriophyllum cæspitosum, Dougl. Nanaimo, B. C.
Gnaphalium purpureum, L. Nanaimo, B. C.
Hieracium albiflorum, Hook. Nanaimo, B. C.
Hieracum triste, Cham. Mountain slope near Alaska.
Madia Nuttallii, Gray. Nanaimo, B. C.
Petasites palmata, Gray. Above Silver Bow Basin, Juneau. The plants closely resemble *P. nivalis*, Greene (Pit. ii. p. 18) founded on speeimens collected, in fruit only, by Smith on Mt. Ranier.
Prenanthes alata, Gray. Loring.
Senecio triangularis, Hook. Silver Bow Basin, near Juneau.
Silybum Marianum, Gærtn. Near steamer landing, Nanaimo, B. C.
Solidago lepida, DC. Juneau.
Sonchus asper, Vill. Nanaimo, B. C.
Taraxacum officinale, Web. var. *lividum*, Koch. Mountain above Silver Bow Basin, near Juneau.
Troximon heterophyllum, Greene. Nanaimo, B. C.

CAMPANULACEÆ.

Campanula lasiocarpa, Cham. Juneau.
Campanula Scouleri, Hook. Nanaimo, B. C.; Wrangel.
Campanula rotundifolia, L., var. *arctica*, Lange. Juneau.

ERICACEÆ.

Arbutus Menziesii, Pursh. Nanaimo, B. C.
Bryanthus glanduliflorus, Gray. Mountain near Juneau.
Cassiope Mertensiana, Don. Mountain near Juneau.
Cassiope Stelleriana, DC. Mountain near Juneau.
Gaultheria Shallon, Pursh. Nanaimo, B. C.; Loring.
Kalmia glauca, Ait. Douglas Island.
Loiseleuria procumbens, Desv. Mountaln near Juneau.
Menziesia ferruginea, Smith. Loring.
Moneses grandiflora, Salisb. Salmon Creek, near Juneau.
Monotropa Hypopitys, L. Chilcat.
Pterospora Andromedea, Nutt. Nanaimo, B. C.
Pyrola minor, L. Above Silver Bow Basin, near Juneau.
Pyrola secunda, L. Chilcat.
Vaccinium ovalifolium, Smith. Wrangel; Loring,
Vaccinium parvifolium, Smith. Nanaimo, B. C; Loring.
Vaccinium uliginosum, L. Juneau.
Vaccinium Vitis-Idæa, L. New Metlakatla.

PRIMULACEÆ.

Dodecatheon Meadia, L., var. *macrocarpum*, Gray. Douglas Island.
Glaux maritima, L. Sea beach, near Juneau.
Trientalis Europæa, L. Sheep Creek and Salmon Creek, near Juneau.

GENTIANACEÆ.

Gentiana Amarella, L., var. *acuta*, Hook. f. Port Townsend, Washington.
Gentiana arctophila, Griseb. Mountain above Silver Bow Basin, near Juneau.

Gentiana Douglasiana, Bong. Douglas Island; New Metlakatla.
Menyanthes Crista-galli, Menzies. Douglas Island; Sphagnum swamp, near Juneau.

POLEMONIACEÆ.

Gilia capitata, Dougl. New Metlakatla.
Gilia tenella, Benth. Nanaimo, B. C.

HYDROPHYLLACEÆ.

Romanzoffia Sitchensis, Bong. Juneau.

BORRAGINACEÆ.

Eritrichium Scouleri, A. DC. Nanaimo, B. C.
Mertensia maritima, Don. Beach, near Gold Creek.

SCROPHULARIACEÆ.

Castilleia miniata, Dougl. Sheep Creek, near Juneau.
Mimulus luteus, L. Juneau.
Mimulus moschatus, Dougl. Nanaimo, B. C.
Pedicularis Langsdorffii, Fisch., var. *lanata*, Gray. Mountain near Juneau.
Pedicularis palustris, L., var. *Wlassoviana*, Bong. Douglas Island; New Metlakatla.
Rhinanthus Crista-galli, L. Chilcat.
Veronica alpina, L. Mountain above Silver Bow Basin.
Veronica Americana, Schwein. Salmon Creek, near Juneau.

LABIATÆ.

Brunella vulgaris, L. Juneau.
Micromeria Douglasii, Benth. Nanaimo, B. C.
Stachys ciliata, Dougl., var. *pubens*, Gray, Nanaimo, B. C.

CHENOPODIACEÆ.

Atriplex patulum, L., var. *littorale*, Gray. Salmon Creek, near Juneau.

POLYGONACEÆ.

Kœnigia Islandica, L. Auriferous sand, Silver Bow Basin, near Juneau.
Oxyria digyna, Hill. Juneau, July 24.
Polygonum viviparum, L. Mountain near Juneau.
Rumex salicifolius, Weinm. Wrangel.

CUPULIFERÆ.

Alnus viridis, DC. Gold Creek, near Juneau.

SALICACEÆ.

Populus trichocarpa, T. & G. (?) Sheep Creek, near Juneau; terminal moraine Davidson Glacier.
Salix arctica, Pallas. Mountain near Juneau.
Salix Barclayi, Anders. Silver Bow Basin, near Juneau.
Salix Brownii, Bebb. var. Leaves oblanceolate, acuminate, almost folded together and recurved, attenuate at base, 2-2½ inches long, 1 inch or less wide, very thin veins scarcely elevated; petioles slender, ½ inch or less long; stipules none; aments elongated, flexuose, 2-3 inches long, borne on slender conspicuously leafy peduncles. This would seem to merit varietal distinction, but, owing to

the confusion which exists concerning the forms intermediate between *S. arctica* and *S. Brownii*, it would be inexpedient to impose a new name.

The plant appears to be an extreme modification of the mountain form of *S. Brownii*, and was found associated with an Alpine flora near the line of perpetual snow. On some accounts it might reasonably be referred (from the description) to *S. arctica, Brownii, obovata*, Anders. (DC. Prod. 16, 2, 286) but that is based upon coast forms from Unalaschka which almost certainly belong to *S. arctica*, Pall. Unfortunately, the Kew Herbarium does not help us out. Mr. Baker writes that "Dr. Andersson has not, with casual exception, authenticated his varieties of *S. arctica*, but only the species as a whole." [M. S. Bebb.] Mountain above Silver Bow Basin near Juneau, August 6.

Salix ovalifolia, Traut. Mountain above Silver Bow Basin.
Salix reticulata, L. Mountain above Silver Bow Basin.
Salix Sitchensis, Lawson, var. *denudata*, Anders. Silver Bow Basin.
Salix speciosa, Hook. and Arn. Moraine of Davidson Glacier.

EMPETRACEÆ.

Empetrum nigrum, L. Douglas Island

CONIFERÆ.

Picea Sitchensis, Carr. Juneau, widely distributed.
Thuja gigantea, Nutt. Nanaimo, B. C.

ORCHIDACEÆ.

Goodyera Menziesii, Lindl. Loring; Chilcat.
Habenaria bracteata, R. Br. Mt. above Silver Bow Basin, near Juneau.
Habenaria Chorisiana, Cham. Douglas Island.
Habenaria gracilis, Wats. New Metlakatla.
Habenaria hypoborea, R. Br. New Metlakatla.
Habenaria leucostachys, Wats. Douglas Island.
Spiranthes Romanzoffiana, Cham. New Metlakatla.

LILIACEÆ.

Allium , Nanaimo, B. C.
Brodiæa minor, Wats. Nanaimo, B. C.
Clintonia uniflora, Kunth. Loring.
Maianthemum bifolium, DC., var. *dilatatum*, Wood. Loring.
Streptopus amplexifolius, DC. Wrangel, Loring, Juneau, etc.
Streptopus brevipes, Baker. Juneau.
Tofieldia coccinea, Richards. Above Silver Bow Basin, near Juneau.
Tofieldia occidentalis, Wats. Douglas Island, New Metlakatla.
Veratrum viride, Ait. Mountains about Juneau.

JUNCACEÆ.

Juncus castaneus, Smith. Silver Bow Basin, near Juneau.
Juncus Drummondii, Mey. Mountain near Juneau.
Juncus Mertensianus, Mey. Mountain near Juneau.
Luzula parviflora, Desv. Silver Bow Basin, near Juneau.

ARACEÆ.

Lysichiton Kamtschatcense, Schott. Juneau.

NAIADACEÆ.

Triglochin maritima, L. Sea-marsh, Salmon Creek, near Juneau.

CYPERACEÆ.

Carex limosa, L., var. *stygia*, Bailey. Sphagnum Swamp, near Juneau.
Carex Mertensii, Presc. Mountain near Juneau.
Carex podocarpa, R. Br. Sphagnum swamp, Silver Bow Basin, near Juneau.
Carex ? Mountain near Juneau.
Eriophorum gracile, Koch. Sphagnum swamp, Silver Bow Basin, near Juneau.

GRAMINEÆ.

Deschampsia atropurpurea, Scheele. Mountain near Juneau.
Phleum alpinum, L. Juneau.
Poa alpina, L. Mountain near Juneau.
Poa stenantha, Trin., var. *vivipara*, Trin. Mountain near Juneau.

EQUISETACEÆ.

Equisetum arvense, L. Mountains above Silver Bow Basin, Juneau.
Equisetum hyemale, L. Mountain above Silver Bow Basin.
Equisetum Near Juneau.
Equisetum Near Juneau.

FILICES.

Aspidium aculeatum, Swartz. Juneau.
Aspidium Boottii, Tuckerm. Loring.
Aspidium Lonchitis, Swartz. Above Silver Bow Basin, near Juneau.
Aspidium spinulosum, Swartz., var. *dilatatum*, Hornem. Juneau.
Aspidium spinulosum, Swartz., var. *intermedium*, Eaton. Wrangel.
Cryptogramme achrosticoides, R. Br. Juneau, Nanaimo, B. C., Sheep Creek.
Cystopteris fragilis, Bernh. Juneau.
Lomaria Spicant, Desv. Nanaimo, B. C., Wrangel.
Phegopteris Dryopteris, Fée. Nanaimo, B. C., Juneau.
Phegopteris polypodioides, Fée. Juneau.
Polypodium vulgare, Linn. Killisnov.
Pteris aquilina, L., var. *lanuginosa*, Bong. Juneau.

LYCOPODIACEÆ.

Lycopodium complanatum, L. Mountain above the Basin, near Juneau.
Lycopodium annotinum, L. Mountain above the Basin, Juneau.
Lycopodium Selago, L. Above Silver Bow Basin, near Juneau.

HEPATICÆ.

(Determined by Dr. Lucien M. Underwood).

Bazzania deflexa, B. Gr. Loring.
Cephalozia multiflora, Lindb. Salmon Creek, near Juneau.
Chiloscyphus polyanthos, Corda., var. *rivularis*, Nees. Salmon Creek, near Juneau; new to Alaska.
Conocephalus conicus, Dumort. Salmon Creek, near Juneau.
Kantia trichomanis, Dumort. Sitka.
Lepidozia reptans, Dumort. Sitka.

Marchantia polymorpha, L. Nanaimo, B. C., Mountains near Juneau.
Metzgeria hamata, Lindb. Gold Creek, near Juneau. Not found since Sullivant distributed it from the Lower Alleghanies in 1845.
Metzgeria pubescens, Raddi. Gold Creek, near Juneau.
Pellia epiphylla, Nees. Sitka, Salmon Creek; new to Alaska.
Porella platyphylla, Sheep Creek, near Juneau.
Preissia hemisphærica, Cogn. Mountains near Juneau.
Scapania nemorosa, Nees. Gold Creek, near Juneau, Sitka.

LIST OF MOSSES AND LICHENS.

By CLARA E. CUMMINGS.

MOSSES.

Dicranoweisia crispula, Lindb. Above the Basin, Juneau.
Dicranella crispa, Schimp. Juneau.
Dicranella heteromalla, Schimp. Juneau, and at Gold Creek Cañon, near Juneau.
Dicranum fuscescens, Turn. Sitka.
Dicranum scoparium, Hedw. Loring, also at Salmon Creek, near Juneau.
Dicranum majus, Turn. Sitka.
Caratodon purpureus, Brid. Juneau; also at Salmon Creek and Gold Creek Cañon, near Juneau, and at Nanaimo, B. C.
Blindia acuta, Br. and Schimp Juneau 3,000 ft.; also at Salmon Creek and Gold Creek Cañon, near Juneau.
Grimmia Californica, Sulliv. Above the Basin, Juneau.
Racomitrium aciculare, Brid. Juneau, and at Gold Creek Cañon, near Juneau.
Racomitrium canescens Brid. Near the snow line, above the Basin, Juneau; also Davidson Glacier, Terminal Moraine, Pyramid Harbor, on the Sound near the shore. Plants with few lateral branches.
Hedwigia ciliata, Ehrh., var. *leucophæa*, Schimp. Juneau.
Ulota crispa, Brid. Sheep Creek, near Juneau.
Ulota crispula, Brid. Sitka.
Tetraphis geniculata, Girgens. Salmon Creek, near Juneau, Sitka; very fine specimens.
Bartramia pomiformis, Hedw. Juneau, 3,000 ft.; also at Salmon Creek and Gold Creek Cañon, near Juneau.
Philonotis Macounii, Lesq. & James. Juneau 3,000 ft.; also a doubtful specimen from Gold Creek Cañon, near Juneau.
Philonotis fontana, Brid. Near the snow line, above the Basin, Juneau.
Philonotis fontana, Brid., var. *serrata*, Kind. On earth, Gold Creek Cañon, near Juneau. The variety not yet published, but kindly named by Mrs. Britton from the advance sheets of Macoun's Catalogue.
Webera nutans, Hedw. Salmon Creek, near Juneau, Loring; also at Nanaimo, B. C.
Webera cruda, Schimp. Gold Creek Cañon, near Juneau.
Webera commutata, Schimp. (?) Same locality.
Bryum pallens, Swartz. Douglas Island.
Bryum pseudotriquetrum, Schwægr. Nanaimo, B. C.
Bryum . Juneau.
Mnium orthorrhynchum, Br. & Sch. (?) Salmon Creek, near Juneau.

Mnium punctatum, Hedw. Loring, Sitka, Salmon Creek, near Juneau; near the snow line above the Basin, Juneau.

Atrichum undulatum, Beauv. Juneau.

Pogonatum capillare, Brid. Salmon Creek, near Juneau.

Pogonatum contortum, Lesq. Loring.

Pogonatum alpinum, Rœhl. Juneau, 3,000 ft.; Salmon Creek, near Juneau; also at Sheep Creek, near Juneau.

Pogonatum urnigerum, Beauv. Juneau, 3,000 ft.; also at Salmon Creek and Gold Creek Cañon, near Juneau.

Polytrichum commune, L. Loring, Sitka, Chilcat.

Antitrichia curtipendula, Brid. Sheep Creek, near Juneau.

Climacium Americanum, Brid. Sterile. Sheep Creek, near Juneau.

Climacium Ruthenicum, Lindb. Very fine fruiting specimens. Salmon Creek, near Juneau, and at Sitka.

Hypnum (*Camptothecium*) *lutescens*, Huds. Sheep Creek, near Juneau.

Hypnum (*Isothecium*) *myosuroides*, L. Loring.

Hypnum (*Plagiothecium*) *pulchellum*, Dicks. Above the Basin, near Juneau.

Hypnum (*Plagiothecium*) *denticulatum*, L. Sitka.

Hypnum (*Plagiothecium*) *undulatum*, L. Loring, Juneau, and also at Salmon Creek, near Juneau, Sitka.

Hypnum (*Harpidium*) *uncinatum*, Hedw. Juneau, 6,000 ? ft.; and at Salmon Creek and Gold Creek Cañon, near Juneau.

Hypnum circinale, Hook. At Salmon and Sheep Creeks, near Juneau.

Hypnum subimponens, Lesq. At Sheep Creep and at Gold Creek Cañon, near Juneau.

Hypnum (*Pleurozium*) *splendens*, Hedw. Loring, Sitka, Salmon Creek and Gold Creek Cañon, near Juneau.

Hypnum (*Hylocomium*) *loreum*, L. Sitka, Loring, Juneau, 3,000 ft.; Sheep Creek and Salmon Creek, near Juneau.

LICHENS.

Cetraria glauca (L.), Ach. Sheep Creek and Salmon Creek, near Juneau; Sitka.

Alectoria Fremontii, Tuck. Salmon Creek, near Juneau, Sitka.

Alectoria ochroleuca (Ehrh.), Nyl., var. *sarmentosa*, Nyl. Salmon Creek and Sheep Creek near Juneau; Sitka.

Parmelia saxatilis (L.), Fr. Sheep Creek, near Juneau.

Parmelia physodes (L.), Ach., var. *enteromorpha*, Tuck. Loring, Juneau, and at Sheep Creek, near Juneau; Sitka.

Parmelia physodes (L.), Ach., var. *vittata*, Ach. Loring.

Sticta pulmonaria (L.), Ach. Salmon Creek, near Juneau.

Sticta Oregana, Tuck. Loring; Sheep Creek, near Juneau.

Sticta limbata (Sm.), Ach. Sheep Creek and Salmon Creek, near Juneau.

Nephroma tomentosum (Hoffm.), Kœrb. Salmon Creek, near Juneau.

Peltigera aphthosa (L.), Hoffm. Loring; Sheep Creek, near Juneau.

Peltigera polydactyla (Neck.), Hoffm. Gold Creek Cañon, near Juneau.

Peltigera canina (L.), Hoffm. Nanaimo, B. C.; also specimens doubtfully referred to this from Salmon Creek, near Juneau.

Leptogium tremelloides (L. fil.), Fr. Salmon Creek, near Juneau.

Lecanora elatina, Ach., var. *ochrophæa*, Tuck. Sheep Creek, near Juneau.

Lecanora pallescens (L.), Schær. Sheep Creek, near Juneau.
Lecanora pallescens (L.), Schær., var. *rosella*, Tuck. Sheep Creek, Juneau.
Stereocaulon tomentosum (Fr.). Th. Fr. Sheep Creek, near Juneau; Davidson Glacier.
Pilophorus cereolus (Ach.), var. *acicularis*, Tuck. Juneau, 3,000 ft.; Salmon Creek and Gold Creek Cañon, near Juneau.
Cladonia mitrula, Tuck. Juneau.
Cladonia fimbriata (L.), Fr. Loring; also a doubtful form from Sheep Creek, Juneau.
Cladonia fimbriata (L.), Fr., var. *tubæformis*, Fr. Sheep Creek, Juneau.
Cladonia squamosa, Hoffm. Sheep Creek, Juneau; also at Nanaimo, B. C.
Cladonia rangiferina (L.), Hoffm. Salmon Creek and Sheep Creek, near Juneau.
Cladonia rangiferina (L.), Hoffm, var. *sylvatica*, L. Salmon and Sheep Creek, near Juneau.
Cladonia macilenta (Ehrh.), Hoffm. Loring.
Bacomyces æruginosus (Scop.), DC. Loring; Salmon Creek, near Juneau.
Heterothecium sanguinarium (L.), Flot. Juneau; also at Sheep Creek near Juneau.
Sphærophorus globiferus (L.), DC. Loring; also at Salmon Creek, near Juneau.

My thanks are due to Mrs. Britton, for assistance in naming some of the mosses, and to Prof. A. B. Seymour, for his kindness in comparing some of the lichens in the Tuckerman Herbarium.

CLARA E. CUMMINGS.

An Enumeration of Some Rare North American Lichens.

By Dr. J. W. Eckfeldt.

The following list of species is intended to embrace some plants that are but little known to the botanists of North America, and in order to illustrate them better than by a simple list of names, I herewith give the general description from plants in my herbarium, hoping thereby to render them better understood by those who are pursuing the study of lichenology. The lichens, to which I have here referred, are all of the Graphidacei, with two exceptions. From the special interest that I have taken in these plants, I consider them worthy to be brought into notice for the benefit of those who may be collecting in the neighborhood where they were found.

Placodium aphanotripta (Nyl.), Eck. Thallus effuse granulose, made up of very minute ascendant lobules, which are closely crowded into a uniform crust, supporting a delicate light blue hypothallus, grayish green, tending to a brighter yellow. Apothecia 0.5 mm., scattered, small and flattened, concave, mostly sunken or slightly raised above the surface of the thallus, the bright orange disk with a crenulate or wavy margin, which is

thickened and paler in color. Spores broadly ellipsoid, polar bilocular, $\frac{18}{9}$-$\frac{19}{10}$ mic. Reaction with potash bright red.

Upon bark of various trees in the mountain regions, Monterey, Mexico; Mr. C. G. Pringle. A very fine and beautiful species belonging to the stock of *Callopisma*. (*Lecanora aphanotripta*, Nyl. Lich. Japonicæ, 104).

BUELLIA AMPHOREA (Tek.), Eck. Thallus mostly contiguous, disposed in broad, irregular patches, from smoothish to finely granulose, gradually becoming thin on the margin, supported by a delicate bluish hypothallus, from ashy green assuming a pale yellow color. Apothecia scattered, diffiform, elevated, from reddish brown to very black, concave, disk pale, surmounted by a thick rugose thalline margin. Spores oblong-ellipsoid, brown, bilocular $\frac{10}{5}$-$\frac{12}{6}$ mic.

On various barks, mountains near Monterey, Mexico. Mr. C. G. Pringle, No. 112. This species has most likely been quite unnoticed, and from the general characters referred to a closely allied species, *B. parasema*. (*Lecidea amphora*, Tek.).

OPEGRAPHA MESOPHLABIA, Nyl. Thallus membranous, slightly roughened, uneven, delicately wrinkled and tartrous, expanding uniformly into a regular crust, from pale brown becoming olivaceous and fading into an ashy shade. Apothecia brown, simple, becoming tortulose, and assuming no regular system, being stout and rather prominent, convex supported by a paler thalline border. Spores broadly ellipsoid or sub-fusiform, quadrilocular, brown, $\frac{16}{4}$-$\frac{20}{5}$ mic.

Usually upon rough barks in the neighborhood of San Luis Potosi, Mexico. Mr. C. G. Pringle, No. 230. This beautiful species, so far as I am aware, occurs only in the region specified.

OPEGRAPHA MICROBLEPHIA, Nyl. Thallus smooth but somewhat granulose, indistinctly obscured by the numerous apothecia, from pale ashy to dull white, dispersed irregularly over contracted areas. Apothecia wavy and irregular, frequently anastomosing and branched, diffiform and moderately elevated, concave with an incurved, thalline margin. Spores broadly dactyloid, quadrilocular, brown, $\frac{11}{4}$-$\frac{12}{5}$ mic.

On the bark of *Quercus*, in the mountains of Monterey, Mexico, Mr. C. G. Pringle. This rare species has probably escaped notice, yet the general aspect which it bears, and the slight resemblance to other species, make the type distinct.

OPEGRAPHA SCAPHELLA, Nyl., var. GEMELLA (Esch.), Thallus contiguous, very thin, membranous, smooth and shining as occurring in narrow patches, circumscribed by an irregular border which finally becomes indeterminate, from whitish passing into a brown, where it frequently becomes obsolete. Apothecia very small, black and scattered, mostly straight. Spores broadly ellipsoid, and more or less tapering at one end, bilocular, decolorate, $\frac{14}{3}$-$\frac{16}{5}$ mic.

This plant was first found by Mr. H. A. Green, from whom I received the specimens, on the bark of *Hamamelis Virginica*, at Crowders Mountain, N. C., (*Melaspilea gemella*, Esch.).

GRAPHIS TENELLA, Ach. Thallus membranous, thin and slightly roughened, spreading and circumscribed by a well-developed and prominent brown band of an extended hypothallus, from white or tawny ash-color verging into a pale olive. Apothecia simple, irregular and frequently broken, elevated and very prominent and convex, brown. Spores ellipsoid to sub-fusiform, pale brown, 5-6-locular, $\frac{18}{4}$-$\frac{20}{5}$ mic.

So closely related is this plant to *G. scripta* that I have seen it distributed under that name, but the tropical origin, as well as other peculiarities, are convincing that the plant is truly distinct. It occurs on barks at San Luis Potosi, Mexico, Mr. C. G. Pringle, No. 168.

GRAPHIS EGENA, (Nyl.). Thallus much as in *G. nitida* but often of an olivaceous yellow, thin membranous, opaque, quite smooth, frequently broken by transverse fissures. Apothecia poorly developed, scattered, simple, and represented by small, white, mealy lines, which soon become expanded, exhibiting a darker surface within. Spores broadly ellipsoid, bilocular, each containing one cell, $\frac{14}{3}$-$\frac{15}{5}$ mic. Reaction red.

This plant belonging to the section *Fissurina*, may readily be misunderstood, yet the characters are such as to render it less misleading if found in well developed conditions. On barks, San Luis Potosi, Mexico. Mr. C. G. Pringle, No. 192. (*Fissurina egena*, Nyl.).

GRAPHIS ADSCRIBENS, Nyl. Thallus membranous, thinish, smooth and shining with a somewhat uneven surface, from pale ashy to a greenish gray. Apothecia simple, small, narrow and flexuous, more or less sunken or at length even with the surface or hidden, sessile. Thecæ cylindrical, spores ellipsoid, decolor-

ate $\frac{18}{6}$-$\frac{19}{7}$ mic., spore cells six, a larger one at one end. Reaction with potash, yellow.

This plant has a general southern range, extending from the low sections of Florida to Mexico, where it is common in the neighborhood of San Luis Potosi. Mr. Calkins and C G. Pringle.

GRAPHIS BALBISII, Nyl Thallus uneven, granulose to minutely papillose, broken by fissures into a somewhat irregular crust, from ash-color to a delicate yellow. Apothecia elevated, contorted, gyrose and diffiform supporting a thickened and stout inflexed border which is distinctly brighter in color than the thallus. The spores are long-fusiform to long-ellipsoid, plurilocular and contain numerous spore cells, averaging from 14 to 20, mostly decolorate, $\frac{47}{8}$-$\frac{64}{10}$ mic.

On barks in the mountains near Monterey, Mexico, Mr. C. G. Pringle, No. 119.

GRAPHIS LACTEA, (Nyl.) Thallus contiguous, diffuse, from smooth becoming furrowed and irregularly broken in minute fissures, pale ashy inclining to a delicate saffron color, limited and bordered by a distinct darkening hypothalline line. Apothecia irregular, diffiform, concave with raised borders, which are more or less white and mealy. Spores large, broadly ellipsoid, slightly curved, plurilocular, having about eight septæ, the apical cells larger, $\frac{39}{12}$-$\frac{46}{13}$ mic.

On the bark of *Ilex*, San Luis Potosi, Mexico, Mr. C. G. Pringle, No. 210 (*Fissurina lactea*, Nyl.) A well-defined type of the section *Fissurina* which may be better developed in more equatorial regions.

GRAPHIS ANGUILLIFORMIS, Nyl. Thallus thin, generally diffused over large areas, smooth and shining and frequently broken by long transverse fissures, from white to ashy and darker. Apothecia simple, very numerous, from short gradually lengthening and bent in different directions, very conspicuous and elevated, black with a paler thalline border. Spores numerous spindle-shaped, plurilocular, decolorate, $\frac{54}{9}$-$\frac{82}{12}$ mic.; spore cells from 14 to 20. Reaction with potash, yellow.

On barks San Luis Potosi, Mexico, Mr. C. G. Pringle, No. 166. The general appearance is not unlike some forms of *G. scripta*, to which it has been referred.

GRAPHIS PERALBIDA, Nyl. Thallus leprous, thinly attached

to the substratum, smoothish to somewhat granulate, whitish to a pale ashy gray, more or less orbicular, thinning out and becoming paler at the circumference. Apothecia wavy and elevated irregular and coalescing. disappearing finally into the general crust. Spores broadly ellipsoid, muriform, decolorate, monospermous in the thekes, $\frac{46}{13}$-$\frac{48}{15}$ mic.

On various barks San Luis Potosi, Mexico. Mr. C. G. Pringle, No. 222. A tropical *Graphis*, but well represented by the Mexican type.

GRAPHIS SUBELEGANS, Nyl. Thallus very thin, contiguous, marked by a broad crenulate brown hypothalline band, smooth, becoming somewhat roughened in age, from pale fuscous to a yellow olivaceous color. Apothecia elevated, well defined, diffiform, often occurring in stellate clusters, from brown becoming black and covered with a more or less delicate paler bloom. Spores ellipsoid to ovoid, muriform, pale yellow, $\frac{29}{11}$ $\frac{36}{12}$ mic.

On various close barks, San Luis Potosi, Mexico, Mr. C. G. Pringle, No. 162. A very beautiful species which is not likely to be confounded with any other.

GRAPHIS COMMA, Ach. Thallus somewhat leprous, diffused, circumscribed and limited by a well-defined brown, waving line indicated by the hypothallus, smooth, shining, from a dull white to an ashy leaden gray. Apothecia very short, small and comma-like, from straight becoming slightly curved, black. Spores plurilocular, fusiform, frequently bent, the spore-cells ranging from 10 to 13, decolorate, $\frac{38}{3}$-$\frac{49}{5}$ mic.

A very well-pronounced species suggesting an *Opegrapha*, occurring on *Ilex* at Jacksonville, Florida. Mr. W. W. Calkins, No. 216.

GRAPHIS BALBISINA, Nyl. Thallus adnate, leprous, diffused, marked by conspicuous serpentine ridges which divide the crust into segments but do not form areoles, from pale passing into an ashy or dull gray. Apothecia at first innate but becoming elevated, from short and simple advancing into irregular forms, anastomosing with branched divisions paler than the thalline structure. Spores long, fusiform, plurilocular; spore cells 12 to 14, decolorate; $\frac{29}{6\frac{1}{2}}$-$\frac{32}{7\frac{1}{2}}$ mic.

A very beautiful Graphis, quite distinct and occurring on trunks in the mountains near Monterey, Mexico, Mr. C. G. Pringle, No. 118.

Piperaceæ Bolivianæ.

By Casimir de Candolle.

Piper, L.

Sectio III. Steffensia, C. DC. (*in Prodr. v.* 16, 1, *p.* 251).

P. Bangii, foliis breviter petiolatis oblongo-ellipticis basi æquali acutis apice acuminatis acumine obtusiusculo utrinque glabris, nervo centrali ultra $\frac{1}{3}$ longitudinis nervos subpatulos parum arcuatos utrinque 8-10 mittente, petiolo glabro basi ima vaginante, pedunculo glabro petiolo æquilongo, bracteæ pelta triangulari margine breviter hirtella pedicello lato hirtello, antheris ovatis, ovario styloque glabris, stigmatibus minutis.

In Bolivia ad Yungas (Bang in Britt. et Rusb. exsicc. n. 380 in h. Boiss).

Ramuli glabri in sicco ad 4 millim. crassi nodis parum tumidis internodiis ad 5 centim. longis. Limbi in sicco membranacei creberrime pellucido-punctulati ad 20 centim. longi ad 7 centim. lati. Petioli ad 12 millim. longi. Amenta florentia ad 4 millim. crassa. Bracteæ pelta in sicco membranacea. Stamina 4 antheris filamenta paulo superantibus. Stylus ovario circiter æquilongus filiformis apice stigmatibus 3 minutis terminatus. Bacca verisimiliter stylifera sed in specimine nondum adulta.

Species *P. longifolii* Ruiz. et Pav. certe affinis, foliis brevioribus nervisque lateralibus minus numerosis ab ed discrepans.

Peperomia, Ruiz et Pav.

P. Brittonii, foliis ternis longiuscule petiolatis basi rotundatis apice obtuse acuminatis supra pilosulis subtus glabris 5-nerviis, amentis terminalibus axillaribusque longiuscule pedunculatis filiformibus glabris ipsis limbos superantibus haud densifloris, bractea suborbiculari subsessili, filamentis adultis antheras multum superantibus, ovario puberulo sessili apice in stylum oblongum desinente, stigmate terminali.

In Bolivia ad Yungas (Bang in Britt. et Rusb. exsicc. n. 329 in h. Boiss).

Herbe caule glabro basi radicante in sicco membranaceo subpellucido. Limbi in sicco tenuiter membranacei pellucidi circiter 20 millim. longi. Antheræ rotundatæ. Filamenta adulta ovario æquilonga. Ovarium inferne ovatum sub stylo haud contractum.

P. STUBELII, foliis quaternis brevissime petiolatis oblongo-spathulatis junioribus utrinque subtiliter retrorsum puberulis dein glabratis, nerviis 3 inconspicuis, pedunculis petiolos superantibus, bractea elliptico-orbiculari centro subsessili, ovario emerso apice imo stigma carnosulum gerente.

In Bolivia ad Yungas, bajada al Rio Chumunayo altitud. 1800 m., Decembri florens (Stübel n. 42 in h. Hieronymi).

Verisimiliter erecta ramulis retrorsum puberulis circiter 4 mill. crassis. Limbi basi cuneati apice rotundati, in sicco coriacei albicantes opaci, ad 5 centim. longi ad 12 millim. lati. Petioli vix 5 millim. longi. Amenta adhuc juvenilia densiflora, quam limbi breviora.

Botanical Notes.

Acer saccharinum, L. (*Acer dasycarpum, Ehrh.*) *along the Passaic River in New Jersey.*—Last September, while collecting along Dundee Lake, I found a maple, which, judging from the foliage, I took to be the above named species. The tree was growing on a small island a few hundred feet from the Bergen County shore. In the New Jersey Catalogue this maple had only been reported from Sussex County and the Delaware Valley. Before reporting this new locality I desired to collect the fruit. This I did this spring. The tree proves to be what I first thought it was. I have since made a careful search, and have found a number of trees growing on the Passaic County side also.

I reported the matter to Dr. Britton, and he replied, saying he had also found it growing in abundance along the Hackensack River last fall. If a search were made it would undoubtedly turn up in other parts of eastern New Jersey.

GEO. V. NASH.

CLIFTON, N. J., July 11, 1892.

Interior Shoots in Potato Tubers.—One of my fellow professors gave me a good-sized potato the other day, which upon splitting open he had found to contain another of about the size of a grape-shot. From this second proceeded a shoot of some length which again was contained within the original or mother tuber. My informant gave me to understand that he had a number of similar potatoes. Explanations are in order.

In this connection I will add that I have been surprised to see of late in "Nature" letters concerning double Messina and Valentia oranges. I had supposed this to be a familiar observation.

W. WHITMAN BAILEY.

BROWN UNIVERSITY, June 13, 1892.

The American Association for the Advancement of Science will hold its annual meeting at Rochester, New York, beginning August 17th, and continuing for a week. It will be an important meeting for the botanists, because the question of dividing Section F—Biology—into two, one of Botany and one of Zoology, will come up for action. It is very desirable that all botanists who can attend will do so, and that they will present much good matter before the Section and the Botanical Club of the Association, which will hold frequent sessions during the meeting.

Index to Recent Literature Relating to American Botany.

Agave Engelmanni, n. sp. Wm. Trelease. (3d Ann. Rep. Missouri Bot. Gard. 167–168, Plate 55).

Albinos Among Orchids. J. F. Collins. (Gard. & For. v. 299). The white form of *Habenaria psychodes* is reported from North Anson Village, Maine.

American Ashes—The. Geo. B. Sudworth. (Hardwood, i. No. 10).

Aphelandra tetragona, var. *imperialis.* H. Gærdt and L. Wittmack. (Gartenflora, t. 1354).

Arundinella—Sur les Characteres des. H. Baillon. (Bull. Mens. Soc. Linn. Paris, i. 1023, 1024).

Asclepias glaucescens and A. elata—Notes on. J. N. Rose. (Bot. Gaz. xvii. 193).

Asplenium montanum. (Meehan's Monthly, ii. 97, with colored plate).

Begonia Baumanni. L. Wittmack. (Gartenflora, t. 1348). A new species from Bolivia.

Boltonia latisquama. (Gard. & For. v. 268 illustrated).

Cathestechum—Sur l'organisation du Genre. H. Baillon. Bull. Mens. Soc. Linn. Paris, i. 1028–1030).

Champignons parasites de la Vigne—Sur quelques. P. Viala et

C. Sauvageau. (Ann. de l'Ecole Nat. D'Agric. de Montpellier vi. 135–151 ; two plates).

Pyrenochæta Vitis, *Phoma Farlowiana* ; *Coniothyrium Berlandieri* and *Diplodia sclerotiorum* and described as new and figured.

Coryanthes macrantha. A. Bode. (Gartenflora, xl. 152–154, figs. 44, 45).

Etude sur le genre Eustichia (*Brid.*) *C. Mueller.* Emile Bescherelle. (Journ. de Bot vi. 177–186.)

The genus *Bryoziphium*, Mitt. is adopted for the species of the northern hemisphere, and three are recognized, *B. Norvegicum*, Mitt. *B. Savatieri*, (Husn.) Mitt. and *B. Mexicanum*, Besch, the latter separated from *B. Norvegicum*, to include Liebmann's specimens from Mexico and Bourgeau's No. 1333.

E. G. B.

Flora of Mt. Desert Island, Maine—Fourth Annual Supplement to the Preliminary List Edward L. Rand. (Hectograph print, pp. 7, Cambridge, Mass. 1892).

This contains: A list of additions to the Phanerogamia and Pteridophyta, a list of species to be dropped from previous catalogues, a list of the Hepaticæ, determined by Prof. Underwood including *Diplophyllum albicans* here first reported from the United States, one of additional Bryophyta, determined by Herr Warnstorf and Dr. Barnes, and one of additional Algæ, determined by Mr. Collins and Mr. Holden.

Flora of Washington, D. C.—Third List of Additions. Theodor Holm. (Proc. Biol. Soc. Washington, vii. 105-132).

This list, covering the period from April 1886 to April 1892, is supplemental to Professor Ward's "Guide" of 1881, and the subsequent lists of 1885 and 1886. In it are recorded many additional species and new localities for the rarer ones of the region. *Althæa cannabina*, found by Mr. Oliver, escaped from cultivation in vacant lots south of the capitol, and *Brunella laciniata* collected by Mr. Coville near Aqueduct Bridge, appear to be here first reported from America.

Flowers and Insects.—VIII. Charles Robertson. (Bot. Gaz. xvii. 173).

The insects that visit *Isopyrum biternatum*, *Sanguinaria Canadensis*, *Baptisia leucophæa*, *Trifolium pratense*, *Heuchera hispida* and *Lythum alatum* are noted.

Forestry for 1891—*Report of the Chief of the Division of.* B. E. Fernow. (Washington, 1892).

A prominent place is given in the above pamphlet to the report on Southern Lumber Pines, *Pinus palustris*, Mill., *Pinus Cubensis*, Grisb., *Pinus echinata*, Mill. and *Pinus Tæda* are illustrated and their geographical distribution is indicated on maps prepared by Chas. Mohr.

Gramineé uniflore—Un. H. Baillon. (Bull. Mens. Soc. Linn. Paris, i. 1034-1036).

Notes on *Aciachne pulvinata*, Benth of the Bolivian Andes.

Grasses of Tennessee—Part i. F. Lamson Scribner. (Bull. Agri. Exper. Station Univ. Tenn. v. No. 2, p.p. 29-119, illustrated).

Professor Scribner has issued a most important paper on the grasses of Tennessee, and one which cannot fail to be of great service to the people of that State. It consists of an annotated list of the native and cultivated species, arranged alphabetically, local and common names being given in detail, in which many of the genera are illustrated. A chapter is devoted to descriptive terms, also freely illustrated, one to the general characters of the order Gramineæ with an exceedingly useful key to the genera, and another to a list of books and papers consulted.

Grasses—Some depauperate. A. S. Hitchcock. (Bot. Gaz. xvii. 194).

Hypericum opacum. C. S. Sargent. (Gard. & For. v. 304, illustrated).

Hyphomycetes—Two New Genera of. A. P. Morgan. (Bot. Gaz. xvii. 190).

Cylindrocladium scoparium and *Synthetospora electa* are described and illustrated.

Lejeuneæ—The North American. F. Stephani. (Bot. Gaz. xvii. 170).

Two new species are described, *Micro-Lejeunea Cardoti* from Louisiana and Mexico and *Eu-Lejeunea Underwoodii* from Florida.

Life Histories of Plants, No. vii.—Contributions to the. Thos. Meehan. (Proc. Acad. Nat. Sci. Phila. 1892, 160-171 reprinted).

Interesting and suggestive notes "On the Vitality of some Annual Plants," "On Self-pollination in *Amsonia Tabernæmontana*," "On a special form of Cleistogomy in *Polygonum acre*," "On the Direction of Growth in Cryptogamic Plants," "Tricarpellary Umbellifers," "A Mode of Variation in *Stellaria media*," "On the Sexes of the Holly," "On the Stamens of *Ranunculus abortivus*," "On the Character of the Stamens in *Ornithogalum umbellatum*," and "Note on *Barbarea* in connection with Dichogamy."

Loasaceen—Die Blüthenstände der. I. Urban. (Ber. Deutsch. Bot. Gesell. x. 220-225, t. 12).

Loasaceen—Blüthen und Fruchtbau der. I. Urban. (Ber. Deutsch. Bot. Gesell. x. 259-266, t. 14).

Marchantia polymorpha—The Life History of. L. W. Waechter. (Manchester Mic. Soc. Trans. and Annual Rep. 1891, 56 plate III).

Masdevallia biflora. E. Regel. (Gartenflora, t. 1341, f. 2).
A new species from Brazil.

Masdevallia leontoglossa. (Bot. Mag. t. 7245).
Native of New Grenada.

Masdevallia macrochila. E. Regel. (Garten flora, t. 1344).
A new species from New Grenada.

Missouri Botanic Garden—The. (Am. Gard. xiii. 403, illustrated).

Nectar of the Poinsettia—Chemical Composition of the. W. S. Stone. (Bot. Gaz. xvii. 192).

Nomenclature—On. Sereno Watson. (Bot. Gaz. xvii. 169).

Noticias sobre la Flora de Cacahuamilpa y Plantas colectadas por el Dr. Fernando Altamirano. M. Villada. (Mem. Soc. Cient. Antonio Alzate, v. 213-218).

An account or the plants collected by Dr. Altamirano at Cacahuamilpa, Mexico, with a plate of *Breweria Mexicana*, var., *floribunda*, Villada, the same as published in a recent issue of La Naturaleza.

Notylia—Sur l'organisation florale d'un. H. Baillon. (Bull. Mens. Soc. Linn. Paris, i. 1039-1040).

Officinelle Alstræmeriaceen, Agaveu und Xyridaceen Brasiliens. Theodore Peekholt. (Pharm. Rund. x. 162).

The various uses and medicinal qualities of the following Brazilian plants are noted: *Bomarea salsilloides, B. spectabilis, Alstræmeria cunha, A. monticola, A. caryophyllea, Agave Americana, Fourcroya gigantea, F. Cubensis, Xyris laxifolia, X. pallida,* and *Abolboda Brasiliensis.*

Oncidium Phalænopsis. Wm. Hugh Dower. (The Garden xli. 492, with colored plate).

Opizia—La Fleur femelle de. H. Baillon. (Bull. Mens. Soc. Linn. Paris, i. 1037-1039).

Oregon Weeds and How to Destroy Them—Some. Moses Craig. (Oregon Agric. Ex. St. Bull. No. 19, 1892).

Illustrations are given of *Sonchus oleracea, Madia sativa, Anthemis Cotula, Verbascum Thapsus, Gilia squarrosa, Cnicus arvensis, Pteris aquilina, Avena fatua, Erodium cicutarium, Chrysanthemum Leucanthemum, Cnicus lanceolatus, Arctium Lappa, Plantago lanceolata, Rumex crispus, Rumex Acetosella, Amarantus retroflexus, Chenopodium album, Bromus secalinus* and *Agropyrum repens.*

Oreopanax Sanderianum. H. Botting Hemsley. (Gard. Chron. xi. 718).

The description of the *Oreopanax* spp. 19 and 20 of the Biologia Centrali-Americana Botany i. p. 575.

Parmelia molliuscula, Ach.—The Fruiting of. Thomas A. Williams. (Ann. Rep. of the Miss. Bot. Garden iii. May, 1892; pp. 169-170 t. 57).

This lichen, heretofore reported as always sterile, has been found fruiting in the collections of Dr. Engelmann, collected in the Black Hills in 1856, by Dr. H. Engelmann.

Peach Yellows—The Chemistry of. Erwin F. Smith. (Proc. Am. Pom. Soc. for 1891, reprint).

Phyllocactus crenatus. A. Reichard. (Gartenflora, t. 1347).

Plants of the Pribilof Islands, Behring Sea. C. Hart Merriam. (Proc. Biol. Soc. Wash. vii. 133-150).

This account of the flora of the seal islands is only too brief for the interest it awakens, 92 species of Phanerogams, 4 Pteridophytes and 37 Bryophytes being enumerated. Critical notes by J. M. Rose are given on the following species: *Chrysosplenium alternifolium* (?), *Epilobium anagallidifolium*, *Artemisia Norvegica*, var. *Pacifica*, and *A. vulgaris*, var. *Tilesii*. Dr. Merriam adopts the ornithological nomenclature with three names, but is puzzled what to do with the *Sphagnums* named by Warnstorf when they have four names. E. G. B.

Poa annua—Les Glumellules du. H. Baillon. (Bull. Soc. Linn. Paris i. 1034).

Poplars—American. (Gar. & For. v. 277).

A full page illustration is given of a group of *Populus trichocarpa* in the Yosemite Valley.

Prosartes Hookeri—Les Fleurs du. H. Baillon. (Bull. Mens. Soc. Linn. Paris i. 1031, 1032).

Rhipsalis trigona. G. A. Lindberg. (Gartenflora xl. 38, 39, figs. 15, 16).

Romneya Coulteri. (Gartenflora t. 1359).

Stanhopea graveolens, var. *Lietzei.* E. Regel. (Gartenflora t. 1344).

Synandrospadix vermitoxicus. (Bot. Mag. t. 1242).

Illustration of a large Aroid of the Argentine Republic.

Systematische Gruppirung der Pflanzen—Die. H. Hoffman. (Pharm. Rund. x. 164).

A detailed list with dates of methods of plant classification beginning with the Linnæan classification in 1735 and ending with Engler's in 1892.

Taxodium distichum. H. Rottenheusser. (Gartenflora xl. 239-241, figs. 56, 57).

Description and illustrations of the tree and its knees.

Tillandsia Lorentziana. L. Wittmack. (Gartenflora t. 1349).

Tillandsia punctulata. L. Wittmack. (Gartenflora xl. 208, 209, figs. 51, 52).

Transpiration, or the Loss of Water from Plants. C. E. Bessey and A. F. Wood. (Proc. Amer. Assoc. Adv. Sci. xl. 305-308; reprinted as Contr. Bot. Dept. Univ. Nebr. N. S. iv.).

A concise account of the results of recent and early investigation of this subject.

Trees in Winter—The identification of. Aug. F. Foerste. (Bot. Gaz. xvii. 180, with two plates).

Vegetable Pathology—Report of the Chief of the Division of. B. T. Galloway. (Washington, 1892).

With illustrations of *Ceratocystis fimbriata*, the Sweet Potato Black Rot.

Vriesia regina. L. Wittmack. (Gartenflora xl. 160-162, figs. 46, 47).

Waluewa pulchella. E. Regel. (Gartenflora t. 1341, f. 1).

A new genus and species of Orchid from Brazil.

Yucca—Detail Illustrations of. Wm. Trelease. (3d Ann. Rep. Missouri Bot. Gard. 159-166, Plates 44–54).

A general description of the genus with a list of the species as recognized by the author, most of them illustrated.

Yukon District—An Expedition Through. Charles Willard Hayes. (National Geographic Magazine iv. 117-162, Plates 18-20).

An appendix of two pages contains a list of Lycopodiums, mosses, hepaticæ and lichens determined by Miss Cummings.

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